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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,089	04/25/2001	Donald R. Ryan	A0477-US-NP XERZ 2 01054	4959
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FAY SHARPE LLP 1228 Euclid Avenue, 5th Floor The Halle Building Cleveland, OH 44115			HUNTSINGER, PETER K	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/841,089

Applicant(s)

RYAN ET AL.

Examiner

Peter K. Huntsinger

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19 is/are allowed.
- 6) ☒ Claim(s) 20-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/23/09 have been fully considered but they are not persuasive.

The Applicant argues on page 11 of the response in essence that:
The proposed combination of Webster '215 and Allen '299 is improper because Webster '215 teaches away from having a finishing module coordinator separate from a production module coordinator.

a. While Webster '215 discloses a single Mark Facility Controller, Webster '215 does not disparage using a separate finishing module coordinator. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the invention claimed. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009).

The Applicant argues on pages 11 and 12 of the response in essence that:
Offering the operator a chance to fix the printer configuration as taught by DeHority '639 does not constitute an optimization recommendation.

b. DeHority '639 discloses that if a mismatch does occur the printer operator is notified of the characteristics of the mismatch and given an opportunity to change the printer characteristics (66 of Fig. 2B, col. 4, lines 20-32). The notification of a mismatch is a recommendation to change the settings. Therefore, the notification of DeHority '639 can be considered an optimization recommendation.

The Applicant argues on page 12 of the response in essence that:
The cited references do not disclose a finishing device that is programmed to automatically process an assembly and finishing operation based upon instructions created prior to producing said work pieces.

c. Webster '215 discloses that Scheduler 96 takes in jobs represented as assembly trees from the job queue, maps them onto the machine modules present, and finds the optimal sequence of operations to produce the job (col. 9, lines 1-12). Webster '215 further discloses that some mark jobs are not completely provided at the beginning of a job (col. 9, lines 25-27), which indicates that some mark jobs are completely provided at the beginning of a job. Thus, the instructions for processing assembly and finishing operations are created prior to producing said work pieces.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Webster Patent 5,617,215, in further view of Allen Patent 6,549,299.

Referring to **claim 20**, Webster '215 discloses a digital system for integrating and controlling assembler/finishing processes, comprising:

a) a production monitor controller capable of separating a production job into job segments based upon the capabilities and constraints of devices to be used in the production process (col. 9, lines 1-12, scheduler 96 of Fig. 7 takes in jobs represented as assembly trees and maps them onto the machine modules);

b) at least one database for storing information concerning the capabilities and constraints of devices to be used in the production process and for storing job segment descriptions (col. 8, lines 16-20, constraint store 110 of Fig. 7 stores machine module capabilities and constraints);

c) a finishing module coordinator, in communication with assembler/finisher devices and with at least one database, for control, tracking, and integrity functions of job segments during the production process (col. 9, lines 1-12, scheduler 96 of Fig. 7 takes in jobs represented as assembly trees and finds the optimal sequence of operations to produce the job), wherein said assembly/finisher devices are programmed to automatically process an assembly and finishing operation based upon instructions

created prior to producing said work pieces (col. 9, lines 1-12, Scheduler 96 takes in jobs represented as assembly trees from the job queue, maps them onto the machine modules present, and finds the optimal sequence of operations to produce the job).

Webster '215 does not disclose expressly a separate finishing module coordinator and production monitor controller.

Allen '299 discloses a finishing module coordinator (control logic of Fig. 3, col. 4, lines 29-61) that receives job coordination information output from the production monitor controller (computer 12 of Fig. 1, col. 3, lines 17-26, instructions indicate various things about the tasks that are to be performed by the finishing machines).

At the time of the invention, it would have obvious to a person of ordinary skill in the art to receive job coordination information at a separate finishing module coordinator. The motivation for doing so would have been to allow using less expensive standalone finishing machines. Therefore, it would have been obvious to combine DeHority '639 and Allen '299 with Webster '215 to obtain the invention as specified in claim 20.

4. Claims 21-24, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Webster Patent 5,617,215, in further view of DeHority Patent 5,129,639 and Allen Patent 6,549,299.

Referring to **claim 21**, Webster '215 discloses an integrated and digital method for coordinating the printing and finishing of a print job, comprising:

a) printing job segments using a printing device having at least one constraint (col. 5, lines 52-58, marker machine module);

b) finishing the printed job segments using a printing device that is controlled separately from the printing device and having at least one constraint (col. 9, lines 13-23, machine modules describe themselves in terms of capabilities and constraints);

c) outputting job coordination information from a production monitor controller, such job coordination information being based at least in part upon the constraints of the finishing device (col. 9, lines 1-12, scheduler 96 of Fig. 7 takes in jobs represented as assembly trees and maps them onto the machine modules); and

d) directing, controlling and tracking the operation of the finishing device by a finishing module coordinator after such finishing module coordinator identifies each device necessary for completion of the job and determines if each needed device is available (col. 9, lines 1-12, scheduler 96 of Fig. 7 takes in jobs represented as assembly trees and finds the optimal sequence of operations to produce the job), wherein said finishing device is programmed to automatically process an assembly and finishing operation based upon instructions created prior to producing said work pieces (col. 9, lines 1-12, Scheduler 96 takes in jobs represented as assembly trees from the job queue, maps them onto the machine modules present, and finds the optimal sequence of operations to produce the job).

Webster '215 does not disclose expressly presenting a user with optimization recommendations.

DeHority '639 discloses outputting optimization information, wherein a controller presents a user with optimization recommendations (66 of Fig. 2B, col. 4, lines 20-32, if a mismatch does occur the printer operator is notified of the characteristics of the mismatch and given an opportunity to change the printer characteristics).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to present a user with optimization information. The motivation for doing so would have been to allow a user to indicate the closest match to print job requirements rather than rejecting the job completely.

Webster '215 does not disclose expressly a separate finishing module coordinator that receives job coordination information output from the production monitor controller.

Allen '299 discloses a finishing module coordinator (control logic of Fig. 3, col. 4, lines 29-61) that receives job coordination information output from the production monitor controller (computer 12 of Fig. 1, col. 3, lines 17-26, instructions indicate various things about the tasks that are to be performed by the finishing machines).

At the time of the invention, it would have obvious to a person of ordinary skill in the art to receive job coordination information at a separate finishing module coordinator. The motivation for doing so would have been to allow using less expensive standalone finishing machines. Therefore, it would have been obvious to combine DeHority '639 and Allen '299 with Webster '215 to obtain the invention as specified in claim 21.

Referring to **claim 22**, Webster '215 discloses wherein the production monitor controller outputs job coordination information comprising identity of job segments determined at least in part upon constraints of the finishing device (col. 6, lines 47-67, page level control 84 provides the scheduling of a page of an assembly tree).

Referring to **claim 23**, Webster '215 discloses wherein the production monitor controller outputs at least a portion of finishing job segment information prior to production of at least a portion of the job by the production device (col. 7-8, lines 53-67, 1-4, Mark Facility Controller is capable of stream printing before the entire assembly tree has been received).

Referring to **claim 24**, Webster '215 discloses job segments, but does not disclose expressly a job segment identifier.

Allen '299 discloses a job segment identifier uniquely associated with each identified job segment (col. 3, lines 54-61, barcode 38 of Fig. 2 on instruction sheet 30 includes instructions relating to the finishing job).

At the time of the invention, it would have obvious to a person of ordinary skill in the art to utilize an identifier for a job segment. The motivation for doing so would have been to allow using less expensive standalone finishing machines of Allen '299. Therefore, it would have been obvious to combine Allen '29 with Webster '215 to obtain the invention as specified in claim 24.

Referring to **claim 33**, Webster '215 discloses wherein the production manager controller outputs job coordination information comprising:

- a) identification of different job segments for differing operations of the job,

b) instructions of production of each production job segment; and
c) instructions for finishing each finishing job segment (col. 6, lines 47-67, page level control 84 provides the scheduling of a page of an assembly tree).

. Referring to **claim 34**, Webster '215 discloses wherein the production manager controller outputs further comprise:

a) integrity descriptors for use by the finishing module coordinator (col. 7, lines 19-34, the Mark Facility Controller provides estimations of time to complete job).

Webster '215 does not disclose expressly job tickets.

Allen '299 discloses b) at least one virtual print job ticket (col. 3, lines 27-43, print and finishing instructions are provided for the job ticket); and

c) at least one virtual finishing job ticket (col. 3, lines 27-43, print and finishing instructions are provided for the job ticket [more than one ticket may be created]).

At the time of the invention, it would have obvious to a person of ordinary skill in the art to utilize print and finishing job tickets. The motivation for doing so would have been to allow using less expensive standalone finishing machines of Allen '299. Therefore, it would have been obvious to combine Allen '29 with Webster '215 to obtain the invention as specified in claim 34.

5. Claims 25, 26 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Webster Patent 5,617,215, DeHority Patent 5,129,639 and Allen Patent 6,549,299 as applied to claim 21 above, and further in view of Hower Patent.5,467,434.

Referring to **claim 25**, Webster '215 discloses the finishing module, but does not disclose expressly receiving job coordination information from a virtual finishing job ticket database.

Allen '299 discloses a finishing module coordinator (control logic of Fig. 3, col. 4, lines 29-61) that receives job coordination information output from the production monitor controller (computer 12 of Fig. 1, col. 3, lines 17-26, instructions indicate various things about the tasks that are to be performed by the finishing machines).

Hower '434 discloses a virtual finishing job ticket database that outputs job coordination information (col. 4, lines 41-48, print queue 42 of Fig. 2 may be for a virtual printer).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize a virtual finishing job ticket database. The motivation for doing so would have been to queue print finishing jobs so additional jobs can be handled while one job is currently being processed. Therefore, it would have been obvious to combine Hower '434 with Webster '215 to obtain the invention as specified in claim 25.

Referring to **claim 26**, Webster '215 discloses wherein the production monitor controller outputs job coordination information comprising:

a) identity of at least one job segment determined at least in part upon constraints of the finishing device (col. 6, lines 47-67, page level control 84 provides the scheduling of a page of an assembly tree).

Webster '215 does not disclose expressly a job segment identifier.

Allen '299 discloses b) a job segment identifier uniquely associated with job coordination information pertaining to the job segment (col. 3, lines 54-61, barcode 38 of Fig. 2 on instruction sheet 30 includes instructions relating to the finishing job).

At the time of the invention, it would have obvious to a person of ordinary skill in the art to utilize an identifier for a job segment. The motivation for doing so would have been to allow using less expensive standalone finishing machines of Allen '299.

Hower '434 discloses wherein the virtual finishing job ticket database stores a copy of the job ticket (col. 4, lines 41-48, print queue 42 of Fig. 2 may be for a virtual printer).

Referring to **claim 32**, Webster '215 discloses wherein the production monitor controller outputs a finishing job (col. 9, lines 1-12, scheduler 96 of Fig. 7 takes in jobs represented as assembly trees and maps them onto the machine modules).

Hower '434 discloses storing a copy of the job ticket in the virtual finishing job ticket database (col. 4, lines 41-48, print queue 42 of Fig. 2 may be for a virtual printer).

6. Claims 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Webster Patent 5,617,215, DeHority Patent 5,129,639, Allen Patent 6,549,299 and Hower Patent 5,467,434 as applied to claim 26 above, and further in view of Neilsen Patent 6,639,687.

Referring to **claim 27**, Hower '434 discloses job coordination information stored in the virtual finishing job ticket database (print queue 42 of Fig. 2, col. 4, lines 41-48).

Webster '215 discloses a job segment, but does not disclose expressly a job segment identifier code that forms a vector.

Neilsen '687 discloses a job segment identifier code that is physically associated with a job segment wherein such job segment identifier code forms a vector to job coordination information, and pertaining to the job segment to which the job segment identifier code is physically associated (col. 6, lines 45-58, pointer to a print job ticket object includes the component files and print attributes of the print job).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to associate a pointer with a job segment identifier. The motivation for doing so would have been to not have to include actual data but refer to the data stored elsewhere so as to reduce the amount of memory needed. Therefore, it would have been obvious to combine Neilsen '687 with Webster '215 to obtain the invention as specified in claim 27.

Referring to **claim 28**, Neilsen '687 discloses wherein the job segment identifier code comprises recognizable text (col. 6, lines 45-58, "pJob" is a pointer to a print job ticket object).

Allen '299 discloses printing the job segment identifier on a sheet located on the job segment (col. 3, lines 54-61, barcode 38 of Fig. 2 on instruction sheet 30 includes instructions relating to the finishing job).

Referring to **claim 29**, Allen '299 discloses a job segment identifier sheet (col. 3, lines 17-27, instruction sheet 30 of Fig. 2 contains the finishing instructions regarding the document to be assembled).

Neilsen '687 discloses the job segment identifier code (col. 6, lines 45-58, pointer to a print job ticket object includes the component files and print attributes of the print job).

Referring to **claim 30**, Allen '299 discloses wherein the job segment identifier sheet contains job coordination information pertaining to the job segment that was outputted from the production manager controller (col. 3, lines 17-27, instruction sheet 30 of Fig. 2 contains the finishing instructions regarding the document to be assembled).

Hower '434 discloses storing the job ticket in the virtual finishing job ticket database (print queue 42 of Fig. 2, col. 4, lines 41-48).

Referring to **claim 31**, Allen '299 discloses a virtual finishing job ticket reader for reading information from the job segment identifier sheet (barcode reader 44 of Fig. 3, col. 4, lines 54-61).

Allowable Subject Matter

7. Claims 1-19 are allowed.

8. The following is an examiner's statement of reasons for allowance:

Referring to claim 1, Webster '215 discloses an integrated and digital production and finishing system for producing and finishing work pieces of a job, comprising:

a) a production device for producing the work pieces of the job (col. 5, lines 52-58, marker machine module);

b) a finishing device for finishing the output of the production device, such finishing device being controlled separately from the production device and having at least one constraint (col. 9, lines 13-23, machine modules describe themselves in terms of capabilities and constraints);

c) a production monitor controller that receives the at least one constraint from the finishing device and outputs job coordination, based at least in part upon constraints of the finishing device (col. 9, lines 1-12, scheduler 96 of Fig. 7 takes in jobs represented as assembly trees and maps them onto the machine modules);and

d) a finishing module coordinator that identifies each device necessary for completion of the job; determines if each needed device is available; and controls, directs and tracks the operation of the finishing device (col. 9, lines 1-12, scheduler 96 of Fig. 7 takes in jobs represented as assembly trees and finds the optimal sequence of operations to produce the job), wherein said finishing device is programmed to automatically process an assembly and finishing operation based upon instructions created prior to producing said work pieces (col. 9, lines 1-12, Scheduler 96 takes in jobs represented as assembly trees from the job queue, maps them onto the machine modules present, and finds the optimal sequence of operations to produce the job).

DeHority '639 discloses outputting optimization information, wherein a controller presents a user with optimization recommendations (66 of Fig. 2B, col. 4, lines 20-32, if a mismatch does occur the printer operator is notified of the characteristics of the mismatch and given an opportunity to change the printer characteristics).

Allen '299 discloses a finishing module coordinator (control logic of Fig. 3, col. 4, lines 29-61) that receives job coordination information output from the production monitor controller (computer 12 of Fig. 1, col. 3, lines 17-26, instructions indicate various things about the tasks that are to be performed by the finishing machines).

The cited prior art does not disclose a production monitor controller that receives input of at least one constraint from the finishing device and an output comprising:

- job coordination and optimization information;
- database representation of the structure of job segments;
- PDL file for job tracking sheet;
- PDL for a fetch sheet;
- integrity descriptors;
- virtual job tickets for said production and finishing devices; and
- a prompt to call one or more human operators,

based at least in part upon constraints of the finishing device, wherein said production monitor controller presents a user with optimization recommendations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571)-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter K. Huntsinger/
Examiner, Art Unit 2625

/David K Moore/
Supervisory Patent Examiner, Art Unit 2625